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Committee on Restoration of the Greater Everglades Ecosystem

Work Plan

2000—2002

This workplan for the Committee on Restoration of the Greater Everglades Ecosystem (CROGEE) contains five components. The committee completed the first item on aquifer storage and recovery and is proceeding with item 2 on ecological indicators. The following two components (#3 and #4) on marine ecosystems and restoration program storage options were approved by the South Florida Ecosystem Restoration Task Force in November 2000. The last item on human dynamics is pending approval.

1. Aquifer Storage and Recovery (approved 5/12/00, completed 2/1/01)

Aquifer storage and recovery (ASR) is a key component of the Comprehensive Plan. It is important that aspects of this technology, including water quality and its feasibility at the large scales being planned, be understood as soon as possible. Thus the CROGEE proposes that very high priority be given to the task of understanding and analyzing the ASR pilot projects and in addition, to incorporating the pilot test results into an ongoing assessment of regional impacts of the large scale ASR operations. A subcommittee was selected (Bahr, Brezonik, and Vecchioli) to begin a review of plans for the ASR pilot project with a special emphasis on the use of adaptive management. Much of the value of adaptive management comes from designing pilot and other projects to maximize opportunities for learning. This is especially true for a large-scale project like ASR, where it is important to design (local) pilot projects that will allow inferences about injection, storage, and recovery aspects and impacts on water quality expected for the full project over the South Florida region. The subcommittee plans to meet with people from the Corps, SFWMD, and other interested parties, possibly in a workshop forum to initiate appropriate analyses. Will Logan of the NRC and Brad Brown were identified as the key contacts. It is anticipated that this activity would produce a report containing recommendations aimed at enhancing the value of the ASR pilot projects for both technical experts and decision makers.

2. Ecological Indicators (approved 5/12/00, in progress)

The next CROGEE meeting will be held in July 2000. The main focus, in our effort to continue to build a solid base of knowledge for the members of the CROGEE, will be to begin work on ecological indicators, and the process and science behind their selection. Ecological indicators, developed by the Science Coordination Team, are important because they are the tools to measure the success of the restoration effort. Some ecological indicators focus on individual species, such as the endangered Cape Sable Seaside Sparrow; some focus on community composition and structure, such as the Index of Biotic Integrity; and some focus on ecosystem processes, such as biological productivity or trophic

status. Depending on how they are chosen, different ecological indicators may respond differently to various environmental factors and to different restoration activities, and in such cases, choices about appropriate restoration activities might need to be made. Thus, understanding the reasons for choosing various ecological indicators is critical to understanding the scientific basis for implementation of the restoration plan. A subcommittee of the CROGEE will be identified to prepare for the meeting and subsequent work; David Policansky will serve as the NRC contact. The proposal would be to produce a short guidance report on the topic of ecological indicators.

3. Marine Ecosystems (approved 11/00)

Many of South Florida's estuarine, coastal, and marine ecosystems, including the St. Lucie and Caloosahatchee estuaries and Biscayne and Florida Bays, are sensitive to the amount, distribution, timing, and quality of water that flows to them from the greater Everglades. All of these coastal ecological communities are of biological, recreational, commercial, and/or aesthetic interest. Some specific coastal and marine issues include the challenges in coupling the Water Management Model with estuarine circulation models, understanding the causes of changes in Biscayne Bay and Florida Bay, and understanding the effects of nutrients on sea grass and coral-reef communities. Much of the science review relevant to Florida Bay and adjacent waters is the purview of the Florida Bay and Adjacent Marine Systems Science Oversight Panel (Florida Bay SOP). Therefore, a future meeting (April 2001) is tentatively being planned to allow an opportunity for the full CROGEE (or a sub-committee) to interact with the Florida Bay SOP at the Florida Bay and Adjacent Marine Systems Science Conference scheduled to be held in April 2001. At this joint-panel meeting, CROGEE will focus on the linkage between the upstream components of the greater Everglades and adjacent coastal ecosystems. A report would likely follow this review. CROGEE will also review the science used in developing the St. Lucie and Caloosahatchee estuary model, especially with regard to the potential impact of altered fresh water inputs to these systems associated with the restoration.

4. Restoration Program Storage Options (approved 11/00)

A major feature of the restoration plan is providing enough water storage capacity to meet human needs while also providing the needs of the greater Everglades ecosystem. One of the primary assumptions of the Restudy has been that "getting the water right" is the most important single factor leading to sustainable ecologic restoration. Since surface storage is a critical component of restoration, a future meeting will focus on the review of hydrological and ecological analysis and other considerations with respect to analysis of size and location of water storage components proposed in the Restudy.

5. Human Dynamics Aspects of Restoration Efforts (pending approval)

Restoration efforts for South Florida will affect and be affected by the interactions of the human and natural systems. The CROGEE will assist the Task Force by performing a review of the relevant social science techniques and methodologies (including but not limited to economics, GIS/land use forecasting applications, demography, water resource planning and public participation techniques, environmental justice, and agricultural economics) being employed in South Florida to determine their adequacy and validity for their application in the restoration activities and adaptive assessment process. The CROGEE will also provide recommendations to the Task Force on how to develop mechanisms to close the information/methodological gaps, science tools to evaluate consequences and how to prioritize and plan for their timely inclusion into the overall restoration activities and adaptive assessment process.